

Summary Table 3: ICT & ICT-AT and Daily Life

Research Papers

Citation	Topic	Research design	Results	Conclusion	Link
Alper, S., & Raharinirina, S. (2006). Assistive technology for individuals with disabilities: A review and synthesis of the literature. <i>Journal of Special Education Technology</i> , 21(2), 47-64.	The study reviewed literature on assistive technology (AT) for people with disabilities. It reported on uses of AT, on its benefits and on obstacles to successful AT implementation.	The study conducted a comprehensive review and a systematic analysis of 60 published reports of AT and skill acquisition of persons with disabilities. Nine (15%) articles were randomly selected and used to calculate interrater reliability. The degree of interrater reliability ranged from 82.35% to 97.06%, with a mean of 89.30%.	The review revealed the great potential of AT for enhancing the capabilities of individuals with disabilities. At the same time, it highlighted various barriers to successful AT implementation such as inequitable access to technology, cost of equipment, and lack of professional development for educators. . Families also were found to often lack knowledge of effective AT and IT.	It is critical that appropriate technology and support services be available so that persons with disabilities are not denied the full benefit of education programs. It is also imperative for professionals working directly with people with disabilities and their family members, to be adequately trained to provide the support and accommodations necessary for PwD to enjoy the full benefits of AT.	http://www.tamcec.org/jset-index/assistive-technology-for-individuals-with-disabilities-a-review-and-synthesis-of-the-literature/
Scherer, M.J., & Glueckauf, R.L. (2005). Assessing the benefits of assistive	Defines the Environmental Factors of the World Health Organization's International	Key studies with an ICF-focused AT assessment system, Matching Person and Technology were reviewed with a	Despite the increased availability of AT, approximately 30% of ATs are discarded within 1	Effective use of ATs and other supports can be maximized by matching device and support features to users' goals,	http://psycnet.apa.org/index.cfm?fa=buy.optionToBuy&id=2005-05481-006

<p>technologies for activities and participation. <i>Rehabilitation Psychology, 50(2), 132-141</i></p>	<p>Classification of Functioning, Disability and Health (ICF) and describes how ATs can improve the functioning of individuals with disabilities in community environments</p>	<p>discussion of the implications of findings on the further development of the ICF.</p>	<p>year. Explanations for this are multifactorial, including the product not meeting user expectations or needs, setting the user apart from others, and failing The overriding factor accounting for the poor match of user and technology is that an inadequate assessment was done of the user's needs, preferences, and priorities. Technologies that do not fit with consumer capabilities, preferences, or ways of doing things, and socializing with others, diminish the likelihood that they will be used, thus preventing the maximization of potential to participate.</p>	<p>preferences, and environmental resources. Thus, more emphasis should be placed on the need for comprehensive assessment before selecting ATs, particularly of the individual's current goals, past experiences with the use of technologies and other supports, and predisposition to use the AT as well as alternative or additional supports.</p>	
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<p>Seymour, W. (2005). ICTs and disability: exploring the human dimensions of technological engagement. <i>Technology & Disability</i>, 17(4), 195-204.</p>	<p>The research explored the physical and functional factors which may impede usage of AT and the high costs involved in providing technology and services which fail to provide an optimal result. The focus of inquiry was on self-identity of the user and on the broad dimensions of global capitalism within which the user-technology relationship is negotiated.</p>	<p>Three of the participants were identified by staff of the largest provider of augmentative communication and computer technology in Australia, while four more were recruited by means of 'snowballing'. Detailed semistructured, in-depth interviews were employed, and interviews were recorded and subsequently transcribed and analysed.</p>	<p>While most of the participants claimed to be apprehensive at first, each had worked hard to achieve AT skills and competence. Some delighted in the status that the computer attracts, they felt enhanced by the association. However, engaging with technologies was not an easy ride. Whilst many of the issues that arose during the interviews were common to the general population (e.g. concerns over security, cost of access, motivational issues) there were concerns likely to be more prominent for disabled Internet users (e.g. physical strain, adaptation costs).</p>	<p>Although the possibilities offered by the Internet have great personal significance for many people with disabilities, and many disabled people are successful computer users, most ICTs are not specifically designed for people with disabilities. Staying connected is a daily struggle for people with disabilities. Most live with a constant fear of breakdown, obsolescence and dependence on others.</p>	<p>http://iospress.metapress.com/content/7b6vcwu5pnpd/?p=351143ba04a74dbf87773dde360cc001&pi=32</p>
<p>Cahill, S., Begley, E., Faulkner, J.</p>	<p>This work reports Irish</p>	<p>An exploratory descriptive design</p>	<p>Findings showed that in general,</p>	<p>AT can help seniors with dementia achieve</p>	<p>http://iospress.metapress.com/content/put5606xuq23/?p=6c0ac12ad4ab</p>

<p>and Hagen, I. (2007) "It gives me a sense of independence" —Findings from Ireland on the use and usefulness of assistive technology for people with dementia. <i>Technology and Disability</i>, 19(2-3), 133-142.</p>	<p>data emerging from the ENABLE study which trialled assistive technologies in the homes of people with dementia across five European countries and assessed their use and usefulness. The aim of this paper is to report findings on (i) whether new prototype technologies could be used and were considered useful by people with dementia and their primary caregivers, (ii) whether any technical difficulties were experienced by families while trialling these products, (iii)</p>	<p>was used to investigate the four key research questions explored in this paper. Purposeful criterion sampling was used. Twenty participants ($n = 20$), with mild or moderate dementia and aged 50 years and over, and their primary caregivers were recruited. A comprehensive semi-structured questionnaire collected baseline and follow-up data. Elements of the questionnaire included socio-demographics issues, including carer employment status, and questions about the use and usefulness of the product both from the individual's perspective along with from the perspective of the primary caregiver.</p>	<p>most devices trialled were used and were considered useful both by people with dementia, and by most primary caregivers. Caregivers were willing to pay most for devices which they considered useful and which required active participation, such as the picture telephone and the item locator.</p>	<p>higher levels of independence and to reduce general emotional burden from worry for the primary caregivers and/or other family members.</p>	<p>442e909e0a9b6bb161f6&pi=26</p>
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	<p>whether these technologies could be better refined, and (iv) whether these products would be financially viable on the open market.</p>				
<p>Schlieder, C., Schmid, U., Munz, M. & Stein, K. (2013). Assistive Technology to Support the Mobility of Senior Citizens - Overcoming Mobility Barriers and Establishing Mobility Chains by Social Collaboration, <i>Künstl Intell</i>, 27, 247-253.</p>	<p>The article reports on the collaborative research project EMN-Moves, a project focused on AT for mobility in later life. EMN-Moves addresses outdoor mobility on the <i>intermediate spatial scale</i> of residential districts. Mobility assistance is conceived mainly as a <i>social task</i> which involves not only the person in need but depends on collaboration</p>	<p>The collaborative research project EMN-Moves The EMN-Moves consortium consists of two university partners, three communal housing societies, and a provider of technology which supports independent living at home. EMN-Moves provides assistive technology for initiating and coordinating mobility support in residential districts. The project focuses on two aspects: (1) a Geo-<u>Wiki</u> for documenting temporary mobility barriers and for generating proposals</p>	<p>The article presented the design of the EMN-Moves assistive system for mobility support for senior citizens, a system which takes the perspective of mobility support as social task.</p>	<p>The system seems to hold lots of promise for assistive mobility of the elderly. However, the prototype system needs to be empirically tested in residential districts to find out the extent to which its introduction can help senior citizens to enhance their mobility and thereby their general well-being, but also the level of its acceptance and use not only by seniors but by people in the neighbourhood.</p>	<p>http://dblp1.uni-trier.de/db/journals/ki/ki27.html</p>

	with neighbours, family members, and social organisations.	for alternative routes, (2) a matchmaking service for bringing together (elderly) people who need support with volunteers.			
Shinohara, K. and Wobbrock, J. O. (2011). In the shadow of misperception: assistive technology use and social interactions. In <i>Proceedings of the 2011 annual conference on Human factors in computing systems, CHI '11</i> (pp. 705–714), New York, NY, USA. ACM.	Study focused on how the use of AT is affected by social interaction among people.	An interview study of 20 individuals was conducted to determine how AT use is affected by social and professional contexts and interactions.	Findings indicate that specific assistive devices sometimes marked their users as having disabilities; that functional access took priority over feeling self-conscious when using assistive technologies; and that two misperceptions pervaded AT use: (1) that assistive devices could functionally eliminate a disability, and (2) that people with disabilities would be helpless without their devices.	Findings provide further evidence that accessibility should be built into mainstream technologies. When this is not feasible, assistive devices should incorporate cutting edge technologies and strive to be designed for social acceptability.	http://dl.acm.org/citation.cfm?id=1979044
Demers L, Fuhrer MJ, Jutai J, Lenker J, Depa M, & De Ruyter F	The study developed and validated the content of a	The study was designed in four stages. First, a list of potential key	An important result of this study is the identification of a complex set of	Recipients' use of assistive technology can enhance caregivers' well being	http://www.ncbi.nlm.nih.gov/pubmed/19620830

<p>(2009). A conceptual framework of outcomes for caregivers of assistive technology users. <i>Am J Phys Med Rehabil</i>, 88, 645–658.</p>	<p>conceptual framework concerning outcomes for caregivers whose recipients are AT users.</p>	<p>variables relevant to the caregivers of AT users was generated from a review of the existing literature and semistructured interviews with caregivers. Second, the variables were analyzed, regrouped, and partitioned, using a conceptual mapping approach. Third, the key areas were anchored in a general stress model of caregiving. Finally, the judgments of rehabilitation experts were used to evaluate the conceptual framework.</p>	<p>variables that need to be considered when examining the experience of caregivers of AT users. Stressors, such as types of assistance, number of tasks, and physical effort, are predominant contributors to caregiver outcomes along with caregivers' personal resources acting as mediating factors (intervening variables) and AT acting as a key moderating factor (effect modifier variable).</p>	<p>because of its potential for alleviating a number of stressors associated with caregiving. Viewed as a whole, the work demonstrates that the assistive technology experience of caregivers has many facets that merit the attention of outcomes researchers.</p>	
<p>Moisey, S., & van de Keere, R. (2007). Inclusion and the Internet: Teaching Adults with Developmental Disabilities to Use Information and Communication</p>	<p>Study explored the following research question: "What are the immediate and possible future outcomes when adults with developmental disabilities are given access to</p>	<p>A multiple-case study design (Yin, 1999) was used to explore the general research question. A total of 11 participants volunteered for the study, four men and seven women, between 25 and 45 years of age. Participants were</p>	<p>The outcomes revealed that the subjects gained basic ICT skills while engaging in recreational online activities, and that appropriate assistive technologies (voice e-mail and text-to-speech software)</p>	<p>The study contributes to the scarce literature on online inclusion, offers protocols for teaching e-mail and Internet searching, and advocates for the further inclusion of adults with developmental disabilities into the "global community"</p>	<p>http://eric.ed.gov/?id=EJ812647</p>

<p>Technology. <i>Developmental Disabilities Bulletin</i>, 35(1-2), 72-102.</p>	<p>training and appropriate online technologies in order to build basic skills in the use of information and communication technology, particularly e-mail and Internet browsing?”</p>	<p>provided with individualized training and AT in order to learn how to use e-mail and access web-based informational resources. Upon completion of the training period, semi-structured interviews were conducted with the subjects and with others associated with them (i.e., parents, guardian, and support workers) to identify and evaluate the outcomes</p>	<p>compensated for low literacy skills.</p>	<p>where ICT can be a life-enhancing and even a life-altering tool.</p>	
<p>Dawe, M. (2006). <i>Desperately seeking simplicity: how young adults with cognitive disabilities and their families adopt assistive technologies</i>. Paper presented at the Proceedings of the SIGCHI</p>	<p>The article presents findings from a study which investigated reasons and context behind user abandonment of AT in the home.</p>	<p>Semi-structured interviews with parents and teachers of young people with cognitive disabilities were conducted to gain a broad understanding of the types of AT used by young individuals with cognitive disabilities, the purpose and usage contexts of these technologies, and</p>	<p>Through these interviews it became apparent that technology adoption must be studied as a process, consisting of multiple stages, and involving a variety of caregiver stakeholders, who jointly form a caregiver network. This research has demonstrated that</p>	<p>Studying the adoption process of existing assistive technology among real families uncovered important design implications for AT. These include the importance of simplicity not only in technology function but in configuration, documentation, maintenance, and upgrade or replacement; as well as</p>	<p>http://dl.acm.org/citation.cfm?id=1124943</p>

<p>Conference on Human Factors in Computing Systems. doi:10.1145/1124772.1124943</p>		<p>how these technologies are adopted. In total, twenty interviews were conducted with twelve families and eight teachers.</p>	<p>decisions made at each stage are based on different aspects of the environmental and social context. Breakdowns in adoption can occur (1) due to the conflicting perspectives of the many individuals involved; and (2) due to the length of the adoption process.</p>	<p>the need for designers to use methods that consider the multiple individuals and stages involved in the technology adoption process.</p>	
<p>Davis, A., Smith, P., Ferguson, M., Stephens, D., & Gianopoulos, I. (2007). Acceptability, benefit, and costs of early screening for hearing disability: A study of potential screening tests and models. <i>Health Technology Assessment, 11</i>, 1-294.</p>	<p>The objectives of this study were to show that hearing loss has a high enough prevalence in the older population to justify screening, if effective and acceptable methods are available, and that take-up and benefit can make a measurable difference in quality of life.</p>	<p>The research was organised in four strands:</p> <ul style="list-style-type: none"> • Strand 1 had 34,362 respondents in the UK, who replied to a postal questionnaire, 506 who were interviewed, 351 who were assessed for benefit from amplification and 87 who were fitted with a hearing aid. • Strand 2 received 1461 replies from 	<p>One in ten people aged 55-74 years is substantially impaired and would benefit from a referral. Lack of intervention impacts on activity and causes substantial participation restriction (handicap) in older people. Amplification gives substantial benefit to these people and this benefit can be realised by</p>	<p>Hearing impairment of moderate degree in adults is a highly prevalent major public health problem with a large impact on people's lives, which is left too late before access to services is achieved. Screening is an important hearing care activity, because it enables early diagnosis and intervention in adults and older adults. Early diagnosis and intervention, are key issues to improve quality of life for this</p>	<p>http://www.ncbi.nlm.nih.gov/pubmed/17927921</p>

		<p>the first-stage questionnaire screen, with 306 people assessed in the clinic, of whom 156 were fitted with hearing aids.</p> <ul style="list-style-type: none"> • Strand 3 traced 116 previously fitted hearing aid users, who had been identified by a screen, and then conducted a case-control using 50 of these for whom complete data were available, matching with two control groups of 50 people. • Strand 4 examined the costs and cost-effectiveness of different potential screening programmes. 	<p>provision of good-quality hearing aids to people with this high degree of need. A simple systematic screen, using an audiometric screening instrument, has been shown to be acceptable to people in the age range 55–74 years, is likely to provide substantial benefit and may be cost-effective to those in that target group.</p>	<p>population and, consequently, enable them to enjoy a better family life and social integration.</p>	
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